



## User Manual

# ATLONA

## 4x2 HDMI MATRIX SWITCHER

### AT-HD-V42M



TABLE OF CONTENTS

1. Introduction	.....	3
2. Package Contents	.....	3
3. Features	.....	3
4. Specifications	.....	4
5. Panel Descriptions	.....	4
5.1 Front Panel	.....	4
5.2 Rear Panel	.....	5
6. Remote Control	.....	5
7. IR Extender	.....	6
7.1 IR Extender Connection	.....	6
7.2 IR Extender Package	.....	6
8. RS-232 Serial Interface	.....	7
8.1 RS-232 Serial Interface	.....	7
8.2 RS-232	.....	7
8.3 Commands	.....	7
9. RS-232 Serial Commands	.....	7
9.1 Power Off Mode	.....	8
9.2 Front Panel Lock	.....	8
9.3 Unit Reset	.....	8
10. Connection and Installation	.....	9
11. Safety Information	.....	10
12. Warranty	.....	11
13. Atlona Product Registration	.....	12

## INTRODUCTION

Atlona Technologies' AT-HD-V42M is a 4x2 HDMI Matrix Switcher with audio designed to work as a switcher for multiple Audio/Video sources and displays. This Atlona unit is capable of switching HDMI signals between four sources and two displays. Because it is a matrix switch, any or all of the 4 inputs can simultaneously be switched to either or both of the outputs. This device will support high definition video in multiple resolutions of up to 1080p or 1920x1200. This unit has quick and easy installation. With manual, RS232, as well as IR Remote control options, Atlona's AT-HD-V42M Matrix Switcher is HDCP Compliant making it is perfect for all HDMI devices, PC monitors, Plasma TV displays and

## PACKAGE CONTENTS:

- 4x2 HDMI Matrix Switcher (AT-HD-V42M)
- Instruction Manual
- IR Remote Control
- Universal AC/DC power adapter: 12VDC
- 19 inch Ear mount pair
- IR Extender receiver
- RS232 package (RS232 DVD Drive & RS232 Cable)

## FEATURES:

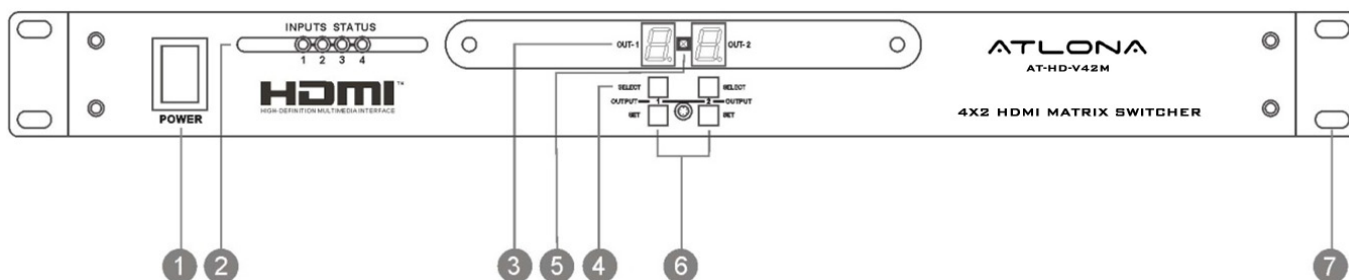
- Switches HDMI Video signal with Audio between 4 sources and 2 displays.
- Matrix Switch: each input can be directed to either or both outputs at the same time
- Quick and easy installation
- HDMI digital video/audio format, DVI format and HDCP compliant
- Supports link speeds of up to 2.25 Gbps (link clock rate of 225 MHz)
- Supports wide range of PC resolutions from XGA to UXGA 1600x1200 and HDTV/DTV
- Resolutions 480i/480p, 576i/576p, 720p, 1080i, 1080p, and 1920x1200
- Compatible with all HDMI devices, PC monitors, Plasma TV display and HDTV
- Supports Digital Video TMDS formats in Deep Color 12bits
- Support IR Remote and IR Extender with distance 300M Maximum.
- Various User Interface control:
  - Attached Window based control software for Desktop or NB control by RS232 port
  - Manual controlled by Front Panel button
  - IR remote control
- Automatically scanning input status by LED on front panel

## SPECIFICATIONS:

- 4x2 HDMI Matrix Switcher: 4 HDMI Inputs To 2 HDMI Outputs
- Input Signals: Video (TMDS) 0.5~1.0Vpp, DDC 5Vpp
- Signal Supports : HDMI Standard, DVI and HDCP Compliant
- Video Supported: HDMI formats up to 1080p or 1920x1200 and DVI UXGA 1600x1200 HD resolutions
- Audio Supported: DTS-HD Master Audio, Dolby True -HD & Dolby Digital Plus
- Supports digital video standards such as:
  - RGB/YCBCR: 24/30/36-bits
  - YCBCR: 8/10/12/16/20/24-bits
  - Double data rate interface for RGB/YCBCR: 12/15/18-bits
- Controls: IR, IR EXT, RS232, and Select buttons on the front panel
- Data Rates: 250Mbps to 2.25Gbps.
- IR Extender Distance: 300 meters maximum.
- IR frequency: 38KHz.
- Safety Approvals: CE, FCC, RoHS(2002/95/EC).
- Power Supply: 12V DC
- Use Universal Switch Type 50/60Hz,100~230 VAC
- Use Universal Switch Type 50/60Hz,100~230 VAC

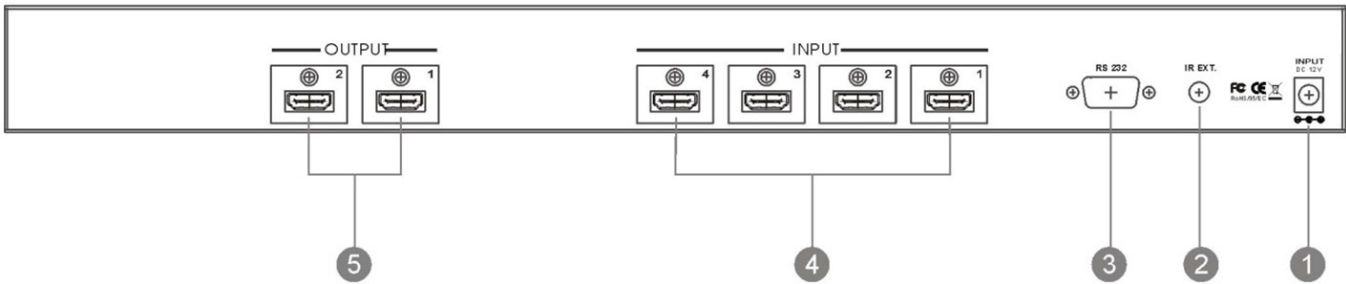
## PANEL DESCRIPTIONS:

### 1. Front Panel



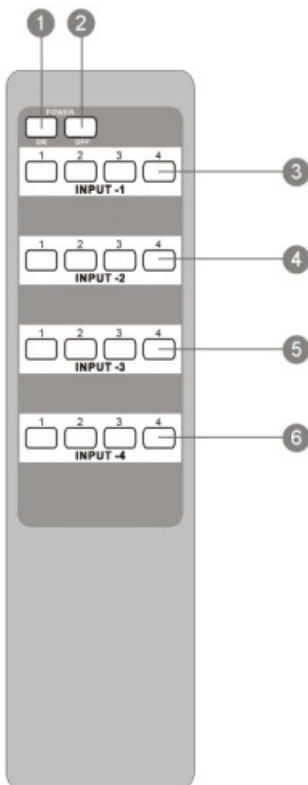
1. POWER SWITCH. The power switch turns the unit on and off. The LED will illuminate red to indicate that the switcher is ON
2. INPUT SOURCES STATUS DISPLAY. Input sources 1 to 4 LEDs illuminate blue to indicate desired video source is present on that input.
3. OUTPUT SOURCES STATUS DISPLAY. Output Status shows by LED display.
4. SOURCES SELECT BUTTONS. Separate outputs 1 ~ 2 source select buttons are provided. Select sources are 1-HDMI, 2-HDMI, 3-HDMI, 4-HDMI.
5. IR SENSOR. The IR sensor receives IR commands from the supplied remote control.
6. SOURCE SETUP BUTTONS. Setup the inputs 1 ~ 4
7. 19 INCH EAR MOUNT PAIR. 19 inch case Ear Mount pair

## 2. Rear Panel



1. DC POWER INLET. Power Input: 12VDC
2. IR EXTENDER CONTROL. Support one of IR Extender, extend distance maximum 300Meters
3. RS 232 CONNECTION. DB-9pin Female connector for serial RS-232 control.
4. VIDEO INPUTS: HDMI Inputs 1-4. HDMI Female connector. (Unit can be used with HDCP compliant DVI digital video signals with appropriate)
5. VIDEO OUTPUTS: HDMI Outputs 1-2. HDMI Female connector. (Unit can be used with HDCP compliant DVI digital video signals with appropriate)

## REMOTE CONTROL



Ensure the mains voltage supply matches the label on the supplied plug-Pack (+/- 10%)

Ensure that the power switch is OFF

Connect all audio video sources and destination equipment

Power up all HD Source and Displays

For each desired output select the appropriate input by using the front panel select buttons, IR remote control, or the RS232 serial communications port.

When powering up the AT-HD-V44M will return to its last used setting before Powered down.

1,2. SWITCH POWER ON or OFF

3. INPUT 1 SOURCES SELECTION

(Select input 1, 2, 3 & 4 sources with selection button)

4. INPUT 2 SOURCES SELECTION

(Select input 1, 2, 3 & 4 sources with selection button)

5. INPUT 3 SOURCES SELECTION

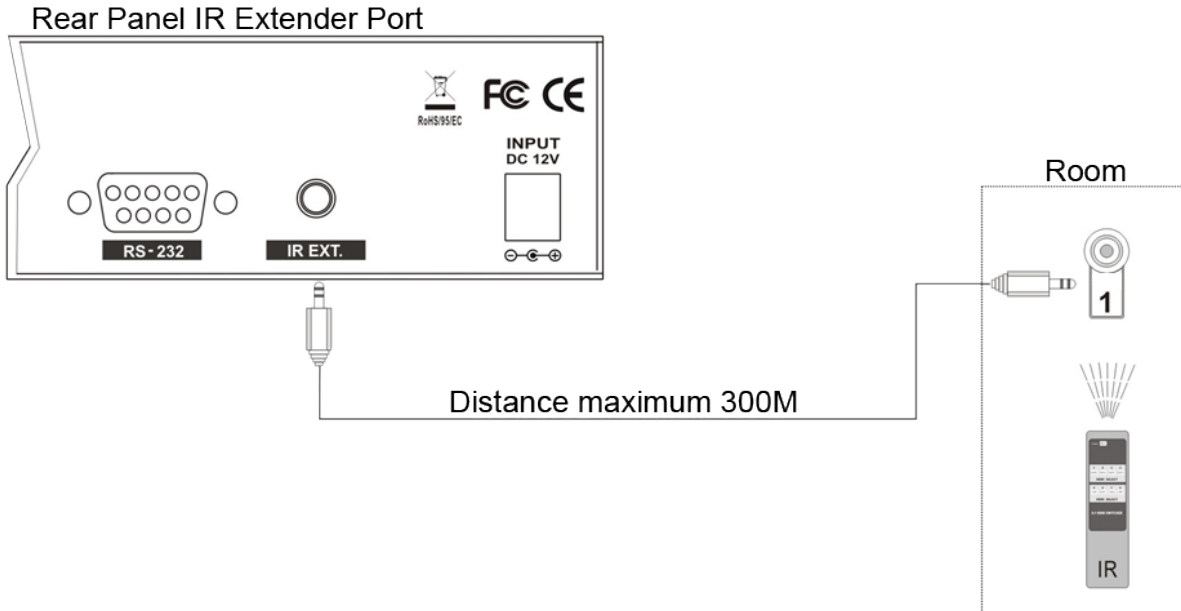
(Select input 1, 2, 3 & 4 sources with selection button)

6. INPUT 4 SOURCES SELECTION

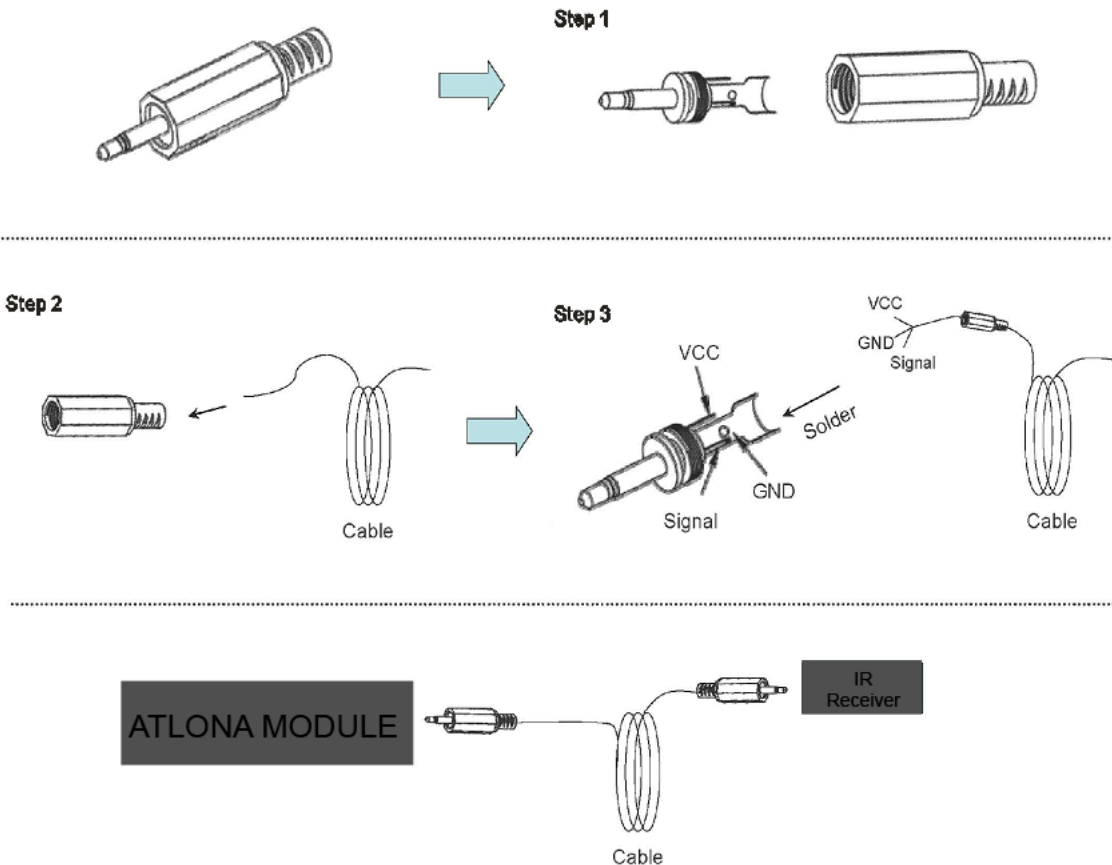
(Select input 1, 2, 3 & 4 sources with selection button)

**IR EXTENDER**

**1. IR Extender Connection**



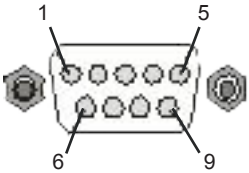
**2. IR Extender Package**



**RS 232**

**1. RS-232 Serial Interface**

RS-232 serial interface connect a PC or Control System



Pin	RS-232	Definition
1	-	Not used
2	Tx	Transmitter
3	Rx	Receiver
4	-	Not used
5	GND	Ground
6	-	Not used
7	-	Not used
8	-	Not used
9	-	Not used

**2. RS-232**

Atlona Technologies' switcher can be controlled via the RS-232 serial control port to allow for interfacing to a PC, The serial communication parameters are 9600 baud, 8 bit, No Parity and 1 stop bit - this is often referred to as 9600 8N1.

When the unit recognizes a complete command it will perform the requested action - there is no delimiter character required. The unit does not send out a message when a value is changed from the front panel or by IR control. If the unit needs to be controlled via the front panel in addition to the RS232 control, you should regularly poll the unit status to ensure the control system accurately reflects the current settings or similar third party control system.

**3. Commands**

To Switch Inputs to Outputs

**SBI0X00Y**- Where X is Output Number (1-2) and Y is Input Number (1-4)

Unit will respond with

**SBUD0X0Y**- Where X is Output Number (1-2) and Y is Input Number (1-4)

Example : Send Input 4 to Output 2

**SBI04002**-Send

**SBUD0402**-Rcvd

**RS 232 SERIAL COMMANDS**

*Note: Turning the unit System Power Off over RS232 will distinguish the LED display leaving only the Power Switch LED on. The Video and Audio outputs will also mute. While the unit is turned off by RS232 it will continue to accept and act upon switching commands. For example, if the unit is in the off mode (via RS232) and you send a command to switch an input to an output, that route will complete and the video and audio will now appear on that channel only. The front panel LED for that particular output will also show the input selected (for that single output channel only). The remaining LED's will remain off and video and audio outputs muted. The unit will still return status and change messages in response to commands sent while in Power Off state. A hard reset command (SBALLRST) will return the unit to normal operation and also unlock the front panel.*

## 1. Power Off Mode

**SBSYSMOF**- Put system into Standby (Soft Power Off)  
**SBSYSMON**- Bring unit out of Standby (Soft Power On)

Unit will respond with

**SBALOFAK**- Unit is in Standby  
**SBALONAK**- Unit is no longer in Standby

Example : Put Unit in Standby (Soft Power)

**SBSYSMOF**-Send  
**SBALOFAK**-Rcvd

## 2. Front Panel Lock

*Note : Hard resetting the unit will unlock the Front Panel controls..*

**SBSYSMLK**- When front panel is locked, changes can only be made by RS-232  
**SBSYSMUK**- Front Panel Unlock

Unit will respond with

**SBSYSLOK**- Front Panel has been Locked  
**SBSYSULK**- Front Panel has been Unlocked

Example : Lock Front Panel Buttons

**SBSYSMLK**-Send  
**SBSYSLOK**-Rcvd

## 3. Unit Reset

**SBALLRST** - Reset every output to Input 1

Unit will respond with

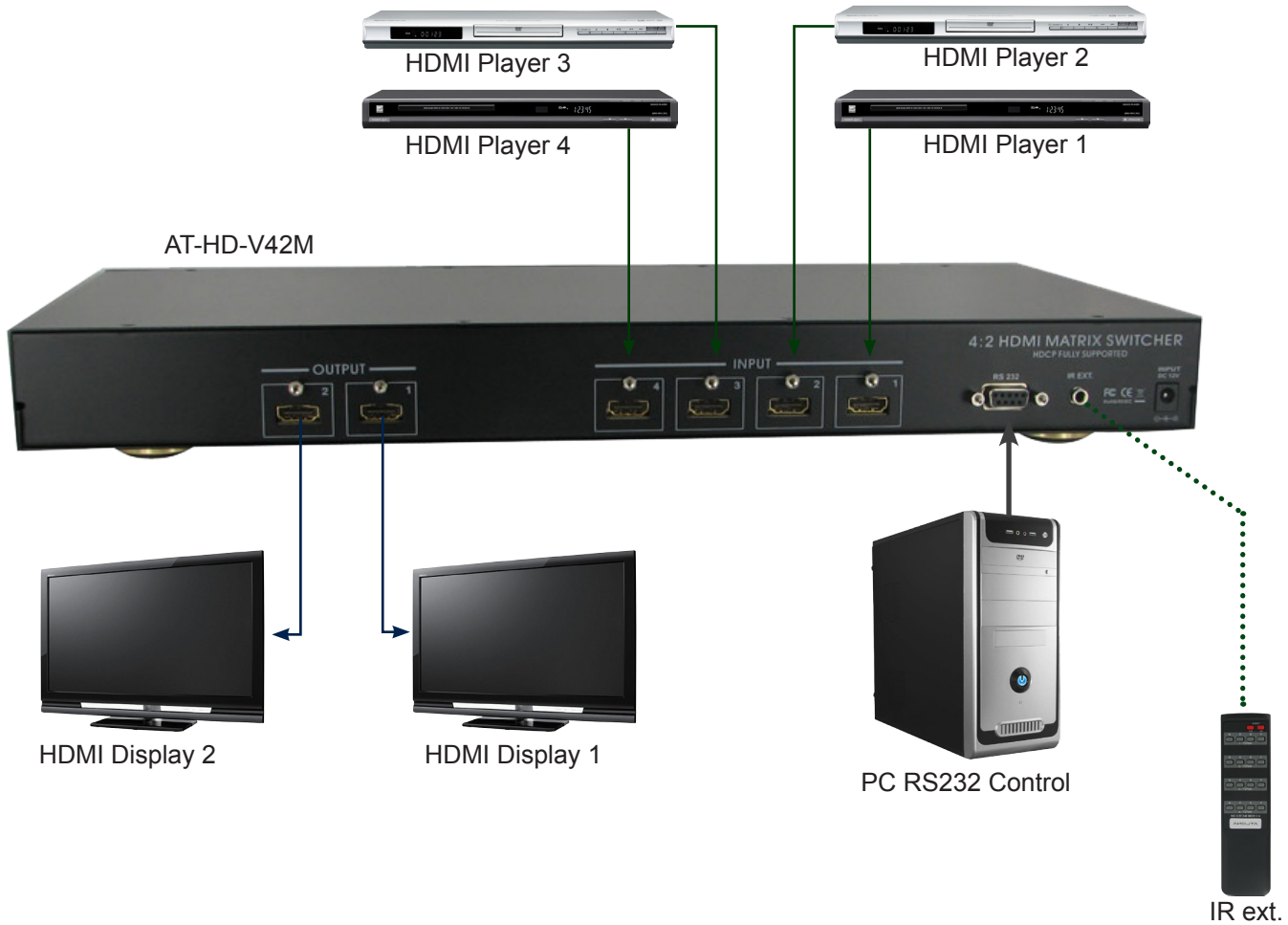
**SBRSTACK**- Unit has reset each Output to Input 1

Example : Reset all outputs to Input 1

**SBALLRST**-Send  
**SBRSTACK**-Rcvd



CONNECTION AND INSTALLATION



*Note: If connecting the outputs to both displays and AV receivers, the audio output will only be stereo due to the display are only able to handle PCM or Stereo Audio through HDMI inputs. If all devices are AV receivers then multi-channel audio such as Dolby TrueHD and DTS-HD can be output. Likewise, the switcher will also look at the resolution of all flat panels connected and output the resolution of the lowest display. For example: If three TV's are 1080p and one is 720p, the output to all TV's will be 720p To achieve 1080p across all displays, no matter what their resolution is, take a look at the AT-HD560 and AT-HD550 both are up/down scalers which can take any resolution and turn it to whatever the displays native resolution is.*

## SAFETY INFORMATION

### Safeguards

To reduce the risk of electric shock, do not expose this product to rain or moisture.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

Do not modify the wall plug. Doing so will void the warranty and safety features.

This equipment should be installed near the socket outlet and the device should be easily accessible in case it requires disconnection.

### Precautions

FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product or cause fires.

In the event of an electrostatic discharge, this device may automatically turn off. If this occurs, unplug the device, and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins, or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements and swimming pools.

Use only accessories recommended by ATLONA to avoid fire, shock or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning. Do not use cleaning fluid or aerosols, which could enter the unit and cause damage, fire or electrical shock. Some substances may also mar the finish of the product.

Never open or remove unit panels or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-HD-V42M. Opening the product will void the warranty.

Do not attempt to service the unit. Instead disconnect it and contact your Authorized ATLONA reseller or contact ATLONA directly.

## 1. LIMITED WARRANTY

Atlona Technologies warrants that (a) its products (the "Product") will perform substantially in accordance with the accompanying written materials for a period of 3 YEARS from the date of receipt and (b) that the Product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to Customer.

## 2. CUSTOMER REMEDIES

Atlona Technologies and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' option, either return of the price paid for the Product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of Customer's receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period or 3 year, whichever is longer.

## 3. NO OTHER WARRANTIES

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, ATLONA TECHNOLOGIES AND ITS SUPPLIERS DISCLAIM ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE PRODUCT AND ANY RELATED WRITTEN MATERIALS. THIS LIMITED WARRANTY GIVES CUSTOMER SPECIFIC LEGAL RIGHTS. CUSTOMER MAY HAVE OTHER RIGHTS DEPENDING ON THE JURISDICTION.

## 4. NO LIABILITY FOR DAMAGES

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL ATLONA TECHNOLOGIES OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR INDIRECT DAMAGES FOR PERSONAL INJURY, LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THIS PRODUCT, EVEN IF ATLONA TECHNOLOGIES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY CASE, ATLONA TECHNOLOGIES' AND ITS SUPPLIERS' ENTIRE LIABILITY UNDER ANY PROVISION OF THIS AGREEMENT SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE PRODUCT. BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

## ATLONA PRODUCT REGISTRATION

**Thank you for purchasing this Atlona product — we hope you'll enjoy it.**

We also hope that you'll take a few moments to register your new purchase. Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona, we respect and protect your privacy and assure you that your registration information is completely secure. Of course, Atlona product registration is totally voluntary and failure to register will not diminish your limited warranty rights.

To register go to [www.atlona.com/registration](http://www.atlona.com/registration)